Prison vs. hospital for offenders with psychosis; effects on reoffending.

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Abstract

With research showing high prevalence of psychosis in prisons, its effective management is essential for clinical and criminal outcomes. In a matched sample of released prisoners and discharged patients with psychosis (124 pairs) we investigated whether group participation (prison vs. hospital) affected the likelihood of reoffending as well as time to reoffending. Statistical analysis was completed using multilevel logistic regression and multilevel survival analysis. We found that prison cases were more likely to commit any offence within a given period of time (1, 2 or 3 years). Moreover, at any particular time 3 times as many patients with psychosis released from prisons reoffended proportionally to their matched controls discharged from hospitals (HR=2.92, 95% CI=1.99, 4.29, P<0.001). In conclusion, release from prison carries higher risk of future offending and reduced time to reoffending among offenders with psychosis. Notwithstanding limitations inherent in observational study designs, we advocate that in addition to clinical need and the humanitarian argument, offenders with psychosis should be treated in secure hospitals to reduce future recidivism.

Keywords (3-10): psychosis, schizophrenia, recidivism, reoffending, medium secure units, prison, discharge

Public significance statement

In this study we investigated whether there is a difference on likelihood of reoffending and on time to reoffending (first reconviction) between released prisoners with a diagnosis of psychosis and a matched sample of discharged forensic patients with a diagnosis of psychosis. We found that prison cases were not only more likely to reoffend following release, but also that at any given time they reoffended nearly 3 times more compared to their matched controls discharged from hospitals.

There results indicate that the choice between hospital or prison for offenders with psychotic illness has important implications.

Introduction

With research showing a high prevalence of severe mental illness in prisons, its early recognition and management is of paramount importance (Gunn, 2000). A recent systematic review and meta-analysis reported that the worldwide pooled prevalence of psychosis in male prisoners is 3.6% (Fazel & Seewald, 2012). Research comparing community and prison samples in the UK found that the weighted prevalence of psychosis in prisons is 10 times greater than that of the general population (Brugha et al, 2005). Considering the large proportion of male inmates with psychosis, greater attention is needed in identifying and treating the mental illness and preventing relapses. Although secure hospital care is three to four times the cost of incarcerating the same individual in prison, various arguments can be put forward in favour of the former. In addition to the clinical need and the humanitarian argument, it has often been claimed that the course of individuals treated in secure hospitals is superior thereafter, both in terms of their mental wellbeing and a reduction in future recidivism (Coid, Hickey, Kahtan, Zhang, & Yang, 2007). Demonstrating a reduction in future recidivism would be particularly telling because of the high societal costs of crime.

Research on factors affecting outcomes in prisoner populations with mental disorders has expanded in the last two decades, with studies from both sides of the Atlantic endorsing criminological and clinical risks factors associated with recidivism (Gagliardi et al., 2004; Fazel et al., 2006; Howard & Dixon, 2013; Piquero et al., 2015; Fazel et al., 2016). Research reporting on recidivism for prisoners with mental disorders in the UK, found that those with symptoms of psychosis on release reoffended more quickly compared to prisoners without psychosis. Treatment with medications for the mental illness delayed time to violent offending (Igoumenou, Kallis, & Coid, 2015). Research reporting on outcomes for prisoners in the USA, found that one in five prisoners with mental illness were civilly committed to a psychiatric centre directly from prison, and almost half were hospitalised during the 18 month follow-up period (with a third of these being related to criminal behaviour)(Feder, 1991). Offenders with serious mental disorders returned to prison 358

days sooner than prisoners without a mental disorder (Cloyes et al., 2010). Moreover, those with a co-occurring psychiatric and substance use disorder presented with a substantially higher risk of multiple incarcerations over a 6-year period compared to prisoners with psychiatric disorders alone or substance use disorders alone (Baillargeon et al., 2010).

Research investigating recidivism rates for offenders with mental disorders discharged from Medium Secure Units (MSU), has shown that approximately 15% are convicted for a new offence within two years of discharge (Maden, Scott, Burnett, Lewis, & Skapinakis, 2004), while 1 in 8 men are reconvicted of a grave offence within 6 years of discharge (Coid, Hickey, Kahtan, Zhang, & Yang, 2007). Almost half (49%) of patients discharged from one MSU were reconvicted within 20 years of follow-up and 38% were readmitted to secure hospitals (Davies, Clarke, Hollin, & Duggan, 2007). It is worth noting that nearly half of the patients discharged from MSUs, either to the community or prisons, had a serious mental illness and one third a diagnosis of schizophrenia (Doyle et al., 2014). Identified predictors of risk were younger age, early onset offending, and a comorbid or primary diagnosis of personality disorder. Longer inpatient stay and restrictions on discharge were protective (Coid, Hickey, Kahtan, Zhang, & Yang, 2007).

Research that directly compares the course for prisoners and patients after they leave prison and hospital respectively has been sparse. Research on offenders found not guilty by reason of insanity (NGRI) found that they spent significantly less time in the hospital compared to the time prisoners were incarcerated for, but were just as likely to be rearrested and more likely to be re-hospitalised after discharge (Pasewark, Pantle, & Steadman, 1982). Specific groups of offenders have also been studied with regard to the impact of hospitalisation or prison on their reoffending rate. The reconviction rate for a sexual offence for mentally disordered sex offenders discharged from hospital in the first five years was 15%, compared to 25% for sex offenders released from prisons (Sturgeon & Taylor, 1980). Research comparing outcomes for violent mentally disordered offenders in prisons and in hospitals found that those in prison spent almost twice as long incarcerated and they were at

higher risk of being reconvicted for violence post-release (Nilsson, Wallinius, Gustavson, Anckarsater, & Kerekes, 2011). A recent systematic review compared studies reporting on reoffending rates of released prisoners with studies reporting on reoffending rates among discharged forensic psychiatric patients and concluded that rates for prisoner reoffending were higher than respective rates for forensic psychiatric patients (Fazel, Fiminska, Cocks, & Coid, 2016). Importantly, research has shown that the benefits from hospital treatment were lost when mentally disordered prisoners were transferred back to prison and that they had the poorest outcomes regarding re-arrest, time to re-arrest, and re-hospitalisation. Such findings advocate the need for mentally disordered offenders to be treated and discharged from psychiatric hospitals (Silver, Cohen, & Spodak, 1989).

In summary, research has indicated that mentally disordered offenders who are managed in hospital have shorter duration of incarceration (Nilsson, Wallinius, Gustavson, Anckarsater, & Kerekes, 2011; Pasewark, Pantle, & Steadman, 1982), subject to recurrent hospitalisation and less offending after discharge (Sturgeon & Taylor, 1980; Fazel, Fiminska, Cocks, & Coid, 2016) than a comparison group of prisoners. Reconviction after discharge in those treated in hospital is associated with the same criminological factors (past criminal record and age) as if managed by the prison system. However, we note that the majority of the studies published are North American, leaving the rest of the world unrepresented and none provided adequate matching for diagnoses. Here, we present a study from the UK investigating whether there is a difference on likelihood of reoffending and on time to reoffending (first reconviction) between released prisoners with a diagnosis of psychosis and a matched sample of discharged hospitalised patients with a diagnosis of psychosis. We aimed to investigate: 1) whether released prisoners with psychosis were more likely to reoffend and 2) reoffend more quickly compared to their matched patients with psychosis that were discharged from hospital.

Methods

Sample. The prisoner data was sampled from the Prisoner Cohort Study (PCS), which was commissioned by the Home Office of England and Wales (Coid et al., 2009; Coid et al., 2011).This was a prospective study of 1353 male prisoners, considered to be at increased risk of reoffending, that were released from prisons between 14 November 2002 and 7 October 2005. The aim of the PCS was to assess the predictive value of clinical and risk assessment measures for criminality. The patient sample was drawn from the Partnerships in Care Research database comprising 935 patients discharged from four independent medium secure hospitals in England and Wales from 1992.

Table 1 about here

Our initial sample (pre-matching) included 133 prison cases (PCS sample) that were male, had a diagnosis of a psychotic illness and at least one 'grave' offence in their criminal history (Table 1), and 884 psychiatric inpatient cases (PIC sample) that were male and had a diagnosis of a psychotic illness. Psychotic illness was assessed using the respective DSM-IV criteria for Schizophrenia and Other Psychotic Disorders Class (First, Spitzer, Gibbon, & Williams, 1997) in the PCS. The PIC sample had a clinical diagnosis of a psychotic illness (schizophrenia, delusional disorder, schizophrenia-like psychotic disorder) by a consultant psychiatrist using the ICD-10 criteria (World Health Organisation, 1992). From the PIC cases only 474 had a grave offence in their criminal history (Table 1), as documented in the Offenders Index/ PNC record. Matching to the PCS sample was therefore from this pool of 474 cases.

Both cohort studies received approval from a Research Ethics Committee. The PCS was approved South East Multi-Centre Research Ethic Committee (Reference Number: 01/01/101). The PIC was approved by the School of Psychology, Cardiff University Research Ethics Committee (Reference MRO/AHT). Participants from the PCS gave written consent for the clinical interview, and inspection of their criminal records.

Matching strategy. All participants were males that had a diagnosis of a psychotic illness (inclusion criteria). The data were matched on two variables: criminal history and age at discharge or release.

Criminal history score

Table 1 summarises the approach we took with regards to defining 'Grave' offending (Coid, Hickey, Kahtan, Zhang, & Yang, 2007).We used the same offence categories when considering reconviction as an outcome.

For matching purposes, the 'Criminal History Score' was measured by the following index as either moderate (total score 0) or severe (total score 1, 2 or 3):

- age first conviction; score 1 if <17 years;
- convictions for grave offences or ABH/assault including current offence; score 1 if >6;
- convictions for non-grave offences; score 1 if >15.

Therefore, criminal history was considered to be 'Severe' if any of the three conditions above were met and the total score on the scale is 1, 2 or 3. We were able to demonstrate that for the databases included this simple criminality index has validity against three of the risk assessment gold standards; the Offender Group Reconviction Scale (OGRS) (Copas & Marshall, 1998)], the HCR-20H (Webster, Douglas, Eaves, & Hart, 1997)and the Psychopathy Checklist Revised (PCL-R)(Hare, 1991) scores.

To be specific, we used Analysis of Variance (ANOVA) to investigate whether our simple criminality index had validity against OGRS, HCR-20H and PCL-R. Based on reasonable cut-offs for age of first conviction and total number of convictions for grave offences we identified the optimal combination of cut-offs. We chose the best combination based on maximisation of the difference between mean OGRS, HCR-20H and PCL-R score in each criminality index category (see Appendix 1).

Age at discharge or release

We created five age bands: 18-23 years, 24-29 years, 30-35 years, 36-41 years, >41 years. We used these age bands for matching.

Using these two variables, 'Criminal History Score' and 'Age', we were able to match 124 of the 133 prison cases with hospital 'controls'. We therefore included 124 matched pairs in our analysis.

Statistical analysis. Data analysis was completed using STATA version 14 (STATACorp, 2015). To take matching into consideration, we used multilevel logistic regression when testing associations between the group differences (prison versus hospital as reference) and multilevel survival analysis when testing for group differences regarding median time to different types of offences. We used multilevel mixed effects parametric survival analysis (mestreg command in STATA 14 that allows to combine multilevel modeling with the parametric analysis of survival-time outcomes) with a Weibull distribution.

Subsequently, using multilevel survival analysis, we estimated the hazard ratios using the 'Group' covariate only. We then estimated the hazard ratios using the 'Group' and the 'Age' covariates. In the third step we estimated the hazard ratios using the 'Group' and the 'Criminal History Score' covariates. Finally, we included all covariates simultaneously in the same model, to control for all matching variables (Bland & Altman, 1994; Sjolander & Greenland, 2013).

We performed sensitivity analysis where we took into consideration the length of stay in prison for the PCS cases or hospital for the PIC cases. As the length of stay was not significantly associated with time to any future offending, we do not include the sensitivity analysis results in this paper. The median length of stay in prison was 129.98 weeks (IQR=125.67), whilst the median length of stay in hospital was 26.5 weeks (IQR=64).

Results

Our analysis included 124 matched pairs of adult males with psychosis; the cases were prisoners (PCS) and the controls hospital admissions (PIC). Half of the sample were individuals between 18 and 29 years old (n=124, 50.00%), 52 individuals (20.97%) were between 30 and 35 years old, 42 (16.94%) between 36 and 41 years old and 30 individuals (12.10%) above the age of 41.

The majority of the participants in both groups had committed their first offence prior to the age of 17 (n=80, 64.52% for prison cases and n=83, 66.94% for hospital controls). The majority had a 'Severe Criminal History Score' (n=96 from each group, 77.42%). Table 2 shows baseline characteristics of both populations.

Table 2 about here

Table 3 shows the comparisons between cases (prison) and controls (hospital) for different outcomes (conviction for: any offence, grave, violent, acquisitive and "other" offences). As only two male prisoners committed arson, we could not perform analysis for that category of outcome. Prison cases were more likely to commit offences for categories "any offence" and "other" offence within a given period of time (1, 2 or 3 years). Prison cases were also more likely to commit at least one acquisitive offence within 3 years of release from prison. Regarding grave and violent convictions, there were no statistically significant results when investigated differences between prison cases and hospital controls.

Table 3 about here

Prison vs hospital cases and time to reoffending

Males with psychosis released from prison had a proportionally higher hazard of reoffending at any given point in time than their matched controls discharged from hospital (Figure 1 shows the

pattern of reoffending rate over time in the two groups). This finding is applicable to any offending, violent and acquisitive offending as well as offending that falls outside the definitions of violent, acquisitive and sexual offending (Table 3).

Table 4 about here

In particular we found that males with psychosis released from prisons had a hazard of reoffending nearly 3 times the one of their matched controls with psychosis discharged from hospitals. The hazard estimate for violent offending is 2.01 (95% CI=1.22,3.32, P<0.001), while the respective estimate for acquisitive offending is 2.68 (95% CI=1.66,4.32, P<0.001) and for non-violent, non-sexual, non-acquisitive offending is 3.78 (95% CI=2.47,5.78, P<0.001). Group participation (prison vs hospital) was not associated with time to sexual offending.

The results remained significant after adjustments for the matching covariates 'Age' and 'Criminal History Score'.

Discussion

These data demonstrate that in a sample of 124 matched pairs of adult male offenders with psychosis, recidivism rates and hazard estimates differed subject to whether the offenders were released from prison or were discharged from a psychiatric hospital. In particular we found that prison cases were more likely than hospital controls to commit "any offence" within a given period of time (1, 2 or 3 years). They were also more likely to commit offences that fall outside the definitions of "violent", "acquisitive" and "sexual offending" within a given period of time (1, 2 or 3 years), and more likely to commit an "acquisitive offence" within 3 years of release from prison. Our data also highlighted group differences with regard to hazard estimates for time to different type of offences, in particular "any offence", "violence", "acquisitive offences", and "other" offences.

Research comparing the course of offenders with severe mental illness discharged from hospitals or released from prison is sparse. Of limited relevance are studies comparing the outcome for prisoners with and without mental illness. We have already referred to the Feder (1991) comparison of the post-discharge careers of 147 mentally ill offenders with a comparison sample of 400 prisoners released from the same prison (Feder, 1991). In contrast to our findings, she found little difference in the rates of re-arrest (64% for the mentally ill and 60% for the non-mentally ill) or in the rates of re-incarceration (36% for the mentally ill and 42% for the non-mentally ill) over the 18 month follow-up period. As identified by the author though, this study was flawed because of its mode of ascertainment (the mentally ill sample relied on them being identified by correctional officers) and the lack of information on the nature of mental disorder. In contrast, our study apart from providing a diagnosis of psychosis based on clinical interviews uses a matched sample of male prisoners with psychosis to ascertain whether the environment (prison versus hospital) plays a role over and above the diagnosis of psychosis on recidivism.

More recently, our team published a paper from the PCS sample, comparing prisoners with and without mental illness regarding time to reoffending (Igoumenou, Kallis, & Coid, 2015). This study has shown that prisoners with current symptoms of psychosis at the time of their release reoffend more quickly following release compared to prisoners without psychosis. The present study suggests that it is not only the diagnosis of psychosis that impacts on the time to reoffending but also whether it is managed in prisons or specialist hospitals.

There are a number of possible explanations to account for this marked difference in the subsequent criminal careers of these two matched groups. An obvious candidate is that the care in the hospitals was superior to that in prisons as they are better resourced with suitably trained staff. In our sample, only 53.7% of prisoners with schizophrenia reported receiving treatment with medications whilst in prison. This could be due to psychosis not been detected during the initial prison screening for mental disorder, lack of in-reach mental health resources and also lack of the

safeguards of the Mental Health Act regarding treatments. It is unarguably worrying that nearly half of the prisoners identified by research interviews as having schizophrenia were not receiving treatment during their incarceration. Alongside advantages in treatment of mental illness, detained patients in England and Wales are subject to the Care Programme Approach with mandatory monitoring and extensive support once they are in the community. Offenders released from prison are not provided with an equivalent level of care receiving with research indicating that less than a quarter of prisoners with psychosis will be receiving community mental health input post release (Meltzer et al., 2002; Senior et al., 2013). In addition, prisoners may be released to the same stressful environments that contributed to their offending or triggered relapse of their mental illness (including homelessness, substance misuse, and abusive relationships) and/or are released to hostels that may not adequately address their mental health needs. Lack of support and risk enhancing social circumstances can lead among other things to discontinuation of medications and relapse. Research has demonstrated the association between untreated schizophrenia and violence through emergence of positive psychotic symptoms and the protective role of treatment on both recidivism and time to reoffending (Igoumenou, Kallis, & Coid, 2015; Keers, Ullrich, Destavola, & Coid, 2014).

With a high prevalence of psychosis in male prisoners (3.6%) greater attention is needed in identifying and treating the mental illness and preventing future relapses, especially as they can be associated with reoffending (Fazel & Seewald, 2012; Brugha et al., 2005; Nilsson, Wallinius, Gustavson, Anckarsater, & Kerekes, 2011; Keers, Ullrich, Destavola, & Coid, 2014). Despite the initiative from the Department of Health to transfer mentally ill prisoners to secure hospitals and discharge from there (Department of Health, 2001) and the increased provision of secure beds in the UK (Keown, Weich, Bhui, & Scott, 2011), the prevalence of psychosis in prisons remains unchanged (Fazel & Seewald, 2012). Undoubtedly, prison primary care and mental health services should improve, so that mental illness is detected, treated and monitored. Emphasis should also be placed on improving liaison with community mental health and social services in order to keep the illness

under control. Improving evidence based risk assessment tools for prisoners on release (especially easy to use scalable tools specifically designed for prisoners with mental disorders) could improve outcomes for this group of high risk prisoners with psychosis that need linkage to community services.

Our findings however indicate that care in MSUs is superior to imprisonment for male offenders with psychosis, both in terms of prevalence of reconvictions post discharge and in terms of time to reconvictions. Secure psychiatric hospitals are designed to assess, diagnose, treat and monitor mental disorders. They are providing comprehensive aftercare, including the safety and restrictions of the Mental Health Act. Prisoners with psychosis in prisons cannot benefit from the provisions of the Mental Health Act.

Strengths and Limitations

This study is the first one in the UK that reports on 124 matched pairs of adult males with psychosis (schizophrenia or delusional disorder); the cases were prisoners (PCS) and the controls hospital admissions (PIC). By using sophisticated analysis approach such as the multilevel regression modelling, we have taken into consideration unobserved heterogeneity between matched pairs and simultaneously controlled for important confounding variables.

Our study is not without limitations. Firstly, the definition of the offence categories (Table 1) varies largely between countries and even between researchers within a country. This can affect the generalisability of our results. In a meta-analysis paper, Yang and colleagues demonstrated that about 25% or more variation in the efficacy of risk assessment tools was attributable among other factors to the differing definitions of violence outcome across studies (Yang, Wong, & Coid, 2010).

Some of the differences between the two matched groups we examined using multilevel logistic regression analysis could be non-significant because of small numbers of offenders (rare event). For

example, for grave and violent convictions, there were no statistically significant results when investigated differences between prison cases and hospital controls. This could be due to using only reconvictions as outcome, which leaves out the large number of offences that were committed but did not result in formal convictions. This especially may be the case for those who are designated as patients post-release and are less likely to be convicted for offences committed (Davies, Clarke, Hollin, & Duggan, 2007). Future research should include both convictions and self-reported offending where possible.

Importantly, the design of our study is not without implications on the outcome. Although we chose our sample based on the diagnosis of a psychotic illness, this included schizophrenia, delusional disorder and other schizophrenia-like psychosis. Our samples are not matched on specific diagnosis and this may have unaccounted impact on our results. More importantly, we did not have any consistent indicators of severity of illness. It is therefore quite possible that the hospital sample experiences more prominent symptoms and greater illness severity, hence treated in a hospital setting and possibly being more carefully monitored on release. Similarly, we matched only on age and 'criminal history score' and there maybe unaccounted risk factors and residual confounding affecting our results, such as comorbidities (the prison population has higher proportions of identified comorbid diagnoses such as personality disorders or conditions related to drug and alcohol misuse) or socio-demographic factors (ethnicity, education) associated with reoffending .

Lastly, details of the post-discharge or post-release management of our participants were not available. We anticipate that all patients discharged from hospitals were subjected to the Care Programme Approach (CPA). The CPA mandates that the patients are subject to package of care including regular reviews by their clinical team (including Care Coordinator, Social Worker and Consultant Psychiatrist) focusing not only on their mental state but also on risk prediction and management. Reality is more complex for prisoners with mental health diagnoses, as it is not the norm that they are followed up by community mental health services. This design also demands an

economic analysis to determine if the cost benefit from a reduction in the time to re-offence was not offset by the increase in the cost of the hospital provision.

The design of this study has a number of deficits; e.g. a retrospective comparison, difficulties in matching, no information about outcomes other than reconvictions. Indeed, the ideal design would require an appropriately diagnosed group of mentally disordered offenders to be randomised to either hospital or prison and then followed-up after release to determine if our findings were sustained. Nonetheless, we believe, that by conducting such an investigation, this would at least provide data to mount a more definitive study.

Conclusions

Despite the Department of Health initiative (Department of Health, 2001) to transfer offenders with mental health problems to hospitals and discharge from there, a large number of prisoners with psychosis are still held in prisons. Our research of a sample of 124 matched pairs of adult male offenders with psychosis indicates that release from prison carries higher risk of future offending and impacts on time to reoffending among prisoners with psychosis. We advocate that in addition to the clinical need and the humanitarian argument, offenders with psychosis should be treated in secure hospitals to reduce future recidivism.

List of abbreviations

ANOVA= Analysis of Variance

HCR-20H= Historical Clinical Risk Management- 20

OGRS= Offender Group Reconviction Scale

PCS= Prisoner Cohort Study

PCL-R= Psychopathy Checklist Revised

PIC= Partnerships in Care study

PNC= Police National Computer

DSM-IV= Diagnostic and Statistical Manual for Mental Disorders (Fourth Edition)

ICD-10= International Classification of Diseases (10th Revision)

Ethics approval and consent to participate

The PCS was approved South East Multi-Centre Research Ethic Committee (Reference Number: 01/01/101). The PIC was approved by the School of Psychology, Cardiff University Research Ethics Committee (Reference MRO/AHT). Participants from the PCS gave written consent for the clinical interview, and inspection of their criminal records.

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